

GLOVEBOX MODIFICATION AND IU TESTING

 CBS.com

LATE SHOW
with David Letterman

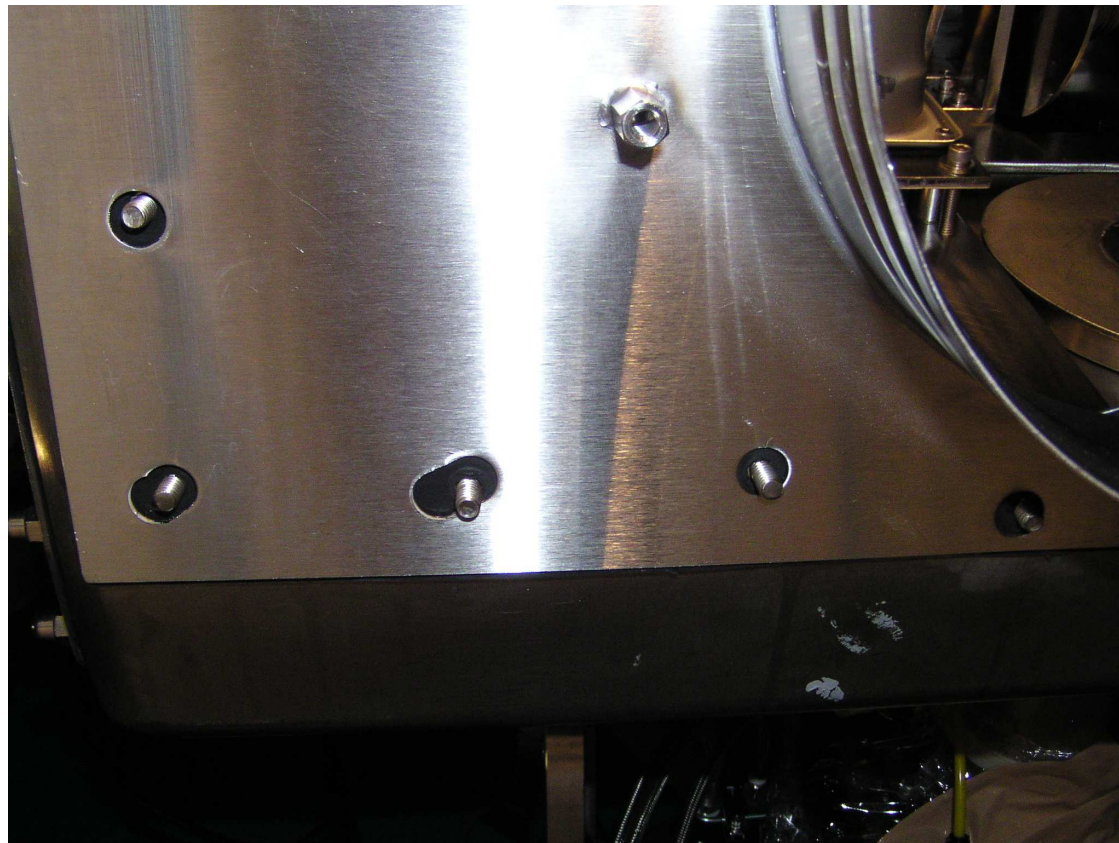


THE LATEST TOP 10

Top Ten Lessons Learned from On-Site Work

Number 10:

As-built drawings of hardware
can save a lot of time and money





Number 9:



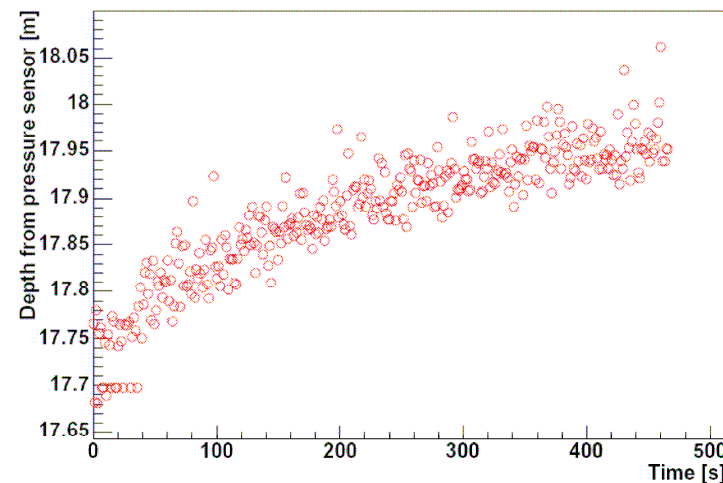
On-site testing of possible trouble spots in the 4π installation has been essential

- Iteration was necessary to get hole pattern right for the gloveport panel
- Instrumentation Units are a critical part of the 4π system, so we've tried to test them extensively
 - depth from pressure sensors
 - LED camera reconstruction
 - found other problems we didn't anticipate! → Leaks
- Test everything we can in advance, before 4π installation

Number 8:

The pressure in the detector is affected
by what goes on in the glovebox

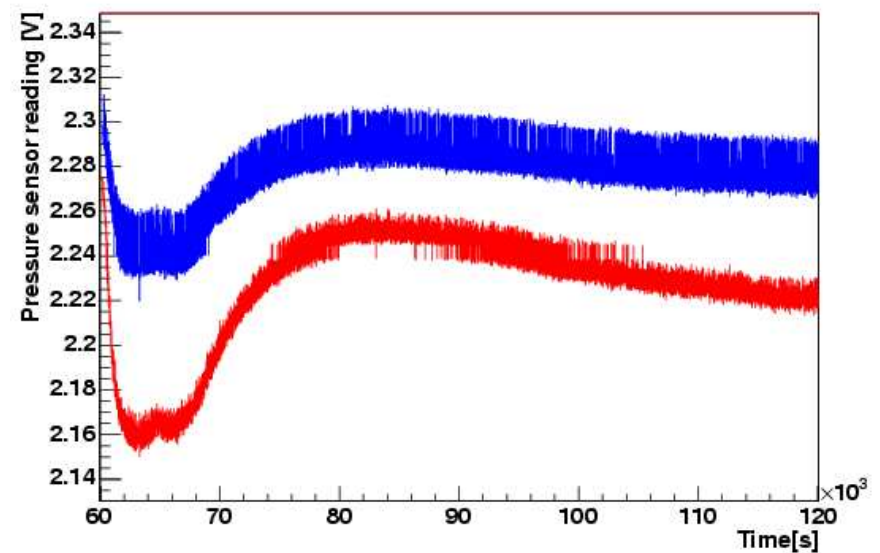
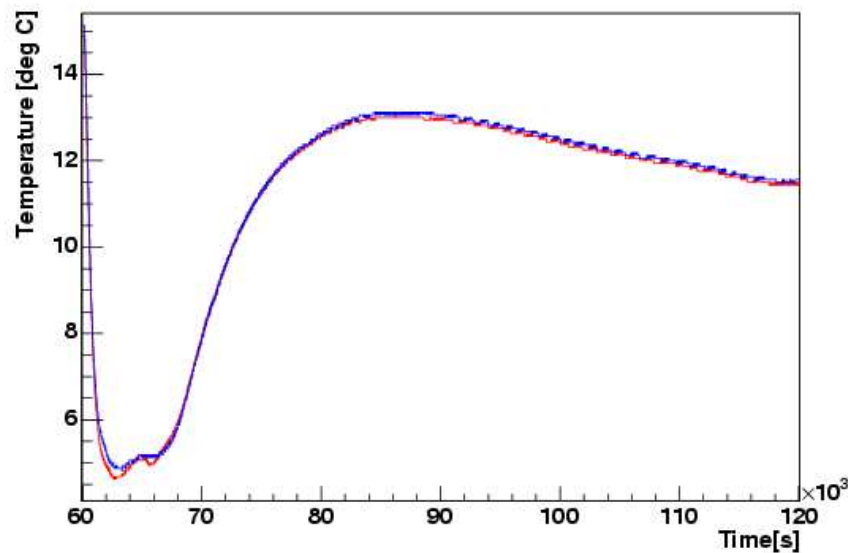
From Fred's talk in Tennessee:
pressure measurements vs. time at lowest position



- ▶ Instantaneous “spike” followed by slow recovery to atmospheric pressure through glovebox leak.
- ▶ Need reference pressure sensor in glovebox.

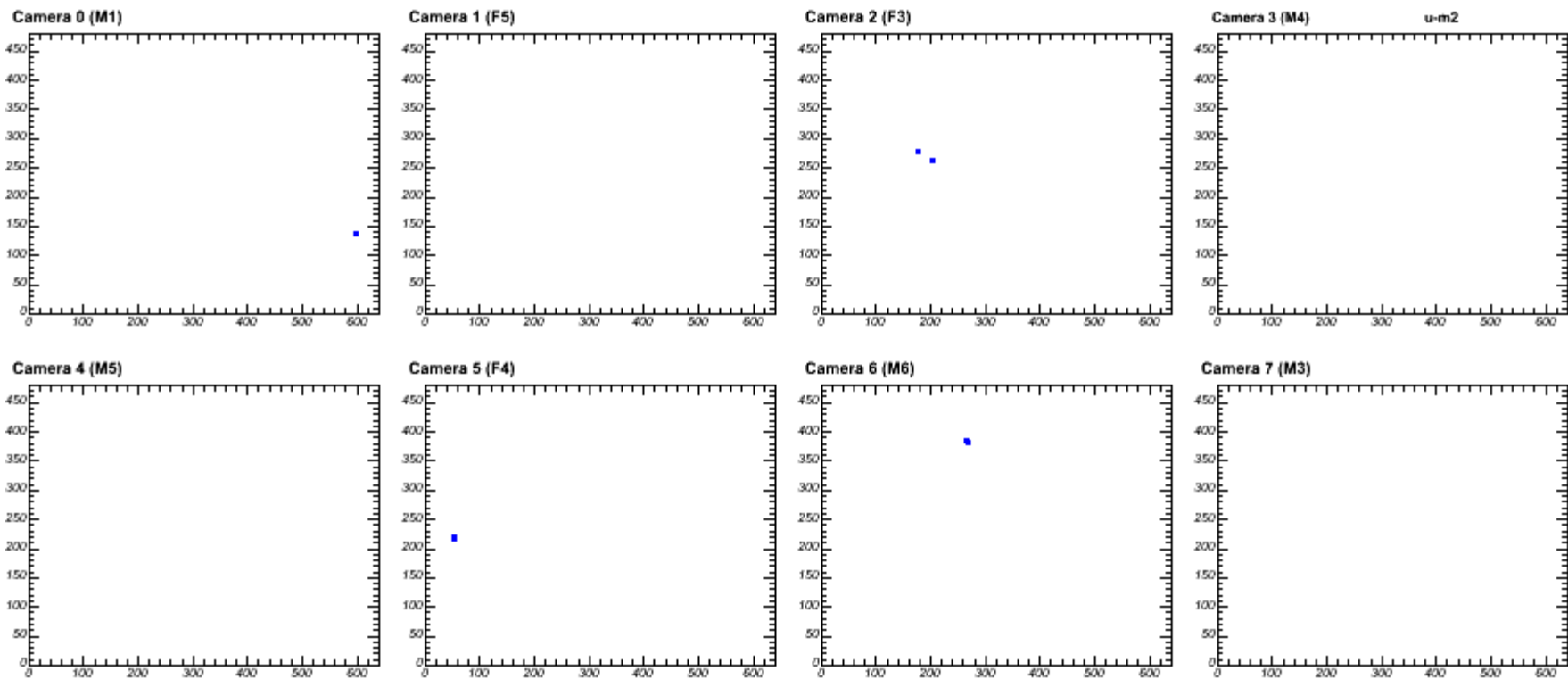
Number 7:

The IU pressure sensor has a significant temperature dependence



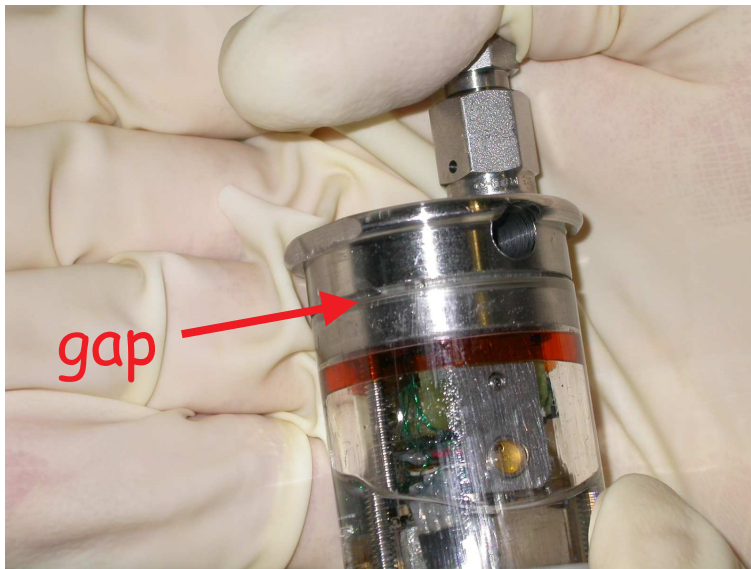
Number 6:

The LED on the IU can't be seen by the cameras at all positions in the current camera positions



Number 5:

Sealing the IUs is a difficult technical challenge



- Screw enclosure with viton O-ring, threaded lucite failed
- Pins must be glued - press-fit didn't work
- What is the cause of last week's failures?
mechanical damage? "double bubble" epoxy in LS?

Number 4:

When you go to Japan to test things, it's better to have
all the equipment prepared, tested, and shipped
in advance



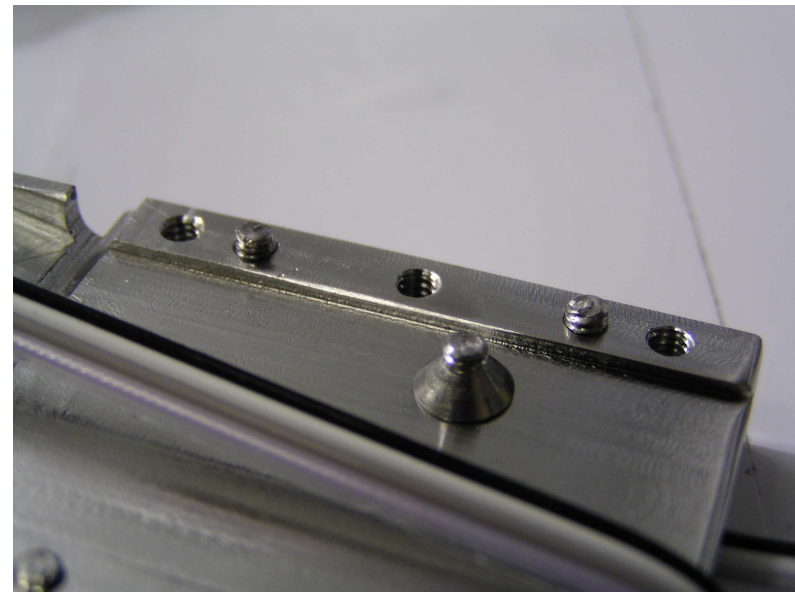
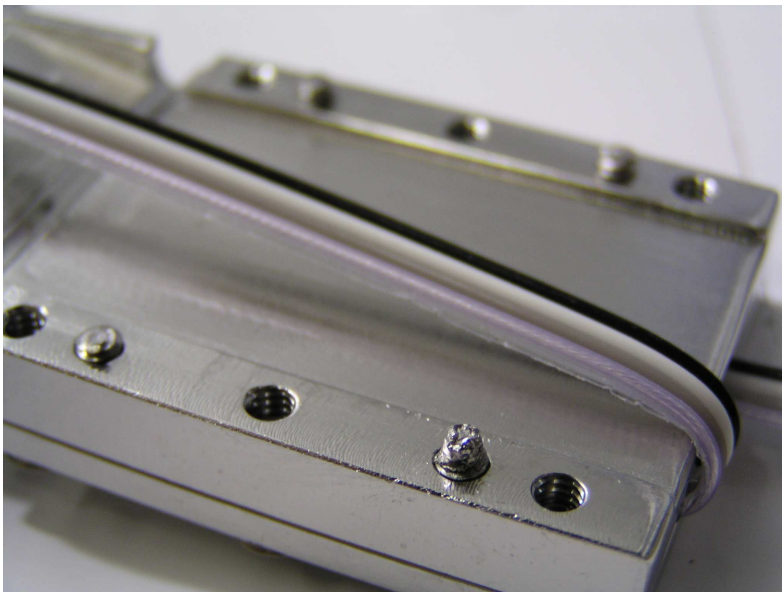
Number 3:

It is more efficient to test components extensively in the US than to have them fail in Japan



Number 2:

Cleaned screws must be oiled to prevent galling



Lindley: "Please remember to put a drop of some mineral oil [or LS] in the holes before assembly unless you want to cold weld the screws into the clamp and watch me cry" - Lindley



Number 1:



Don't ship things to Japan by DHL

- Wednesday evening JST
(last possible delivery time
to deploy Thursday):
still in Los Angeles
- Delivery not yet confirmed,
5/16 2:00 pm

Track results detail

Tracking results detail for 7767336651

Tracking summary

Current Status: With delivery courier.

Sign up for shipment notification

Tracking history

Date and Time	Status	Location
5/13/2005 9:43 am	With delivery courier.	Nagoya, Japan
8:27 am	With delivery courier.	Nagoya, Japan
7:48 am	Arrived at DHL facility.	Nagoya, Japan
1:00 am	In transit.	Osaka, Japan
5/12/2005 11:01 am	In transit.	Osaka, Japan
10:54 am	Arrived at DHL facility.	Osaka, Japan
5/11/2005 3:00 am	In transit.	Los Angeles, CA
5/11/2005 12:00 am	In transit.	Los Angeles, CA
5/10/2005 9:35 pm	Arrived at DHL facility.	Los Angeles, CA
9:07 pm	In transit.	Los Angeles, CA
9:07 pm	Picked Up by DHL.	San Francisco, CA

Ship From: LAWRENCE BERKELEY LAB, Berkeley, CA 947208099, United States

Ship To:

Shipment Information: Ship date: 5/10/2005, Pieces: Total weight: 2 lbs, Ship Type: Package

Attention: LAWRENCE BERKELEY LAB

Shipment Reference: Service: International Express, Description: CABLE CLAMP AND SCREWS

Tracking detail provided by DHL: 5/16/2005, 1:55:19 pm pt.

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Outtakes



Alcohol can remove material from some Viton surfaces indefinitely

Glovebox leak rates have been reduced -
or is it all just the rotary stage?



Thanks!



Thank you very much to:

- Kengo
- Tim
- Kishimoto